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ABSTRACT

Two pilot projects on environmental profiles in the chemical and metal industries and in the public sector were conducted in four countries. Two aspects were studied: job requirements in selected enterprises and departments of the civil service and the occupational competencies of the staff carrying out these tasks. Studies on the chemical and metal industries were conducted in 20 enterprises in Italy, Germany, and the United Kingdom. Spain joined the project later. The enterprises had between 100 and 26,000 employees. The four most important reasons why companies became active in environmental protection were environmental legislation, staff awareness, pressure of public opinion, and direct economic benefits. The 78 occupational profiles in the chemical and metal industries that were examined did not resemble each other. Occupations were classified under three main functional groups that took into account scope of responsibilities, important job content, priority given to occupations, and where occupations fitted into the hierarchy of the department. A description was developed that outlined the typical constellation of tasks of each occupation, typical competencies necessary to perform them, training qualifications, and entry requirements for the position. Initial findings of a comparative analysis of public sector occupations indicated a great similarity in the overall structure of the occupational profiles in the countries. The profiles were less complex than in industry, and the formal initial training less frequently involved higher education qualifications. (YLB)

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flash

Occupational Profiles in Environmental Protection

What role does environmental protection play in the day-to-day occupational behaviour of an enterprise's workforce or in the way the members of the civil service carry out their jobs? What is the essence of work situations in which personnel generate pollution or are able to do something to prevent or reduce it? What occupational skills are needed to do so?

Until recently little empirical knowledge has been available on this subject. The information on environmentally-related job requirements basically represents the first and most important step towards developing systematic and effective strategies for environmental education and training at all qualification levels.

However, this is not meant in any manner of speaking to disclaim the enormous progress which has been made in the field of training and continuing training in environmental protection in most of the Member States. Many courses even seem to have been designed primarily for the purpose of creating environmental qualifications from scratch, as in the case of Italy with its courses for environmental technicians, environmental inspectors and monitoring technicians, etc.

Worth mentioning at the outset are the different transnational cooperation projects which develop joint training modules and "Euro-profiles". These programmes, some of which are sponsored by the EC, not only help to promote mobility, they also raise the standard of training in the countries involved. The practice here is well ahead of substantiated knowledge.

Our two pilot projects on environmental profiles in the chemical and metal industries and environmental profiles in the public sector were conducted in four countries respectively. They were intended to study job requirements in selected enterprises and departments of the civil service and the occupational competences of the staff carrying out these tasks.

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The methodological framework, which has also been used experimentally at CEDEFOP for other comparative studies, was intended to provide a preliminary structure for the studies through job profiles which lend themselves most easily to transnational comparison. In a few exceptional cases, this structure had to be loosened a little since occupational action and vocational qualifications are certainly able to modify and extend the task structure of an enterprise.

We may assume that these findings are typical of environmental protection even though they might not as yet be all that common. Symbolically speaking, the much-cited expression, 'Man grows with the job' needs to be changed to 'The job grows as a result of man'.

The studies on the chemical and metal industries were conducted in twenty enterprises in three countries (IT, D, UK)*. Most of the enterprises had between 300 and 700 on their payroll. Two enterprises employed ca. 800 staff. Three Italian and two German enterprises had about 2000 staff, and one German chemical group had 26 000 employees worldwide. Only one company - a British enterprise - had fewer than 100 employees. Small enterprises, which tend to be less active in environmental protection issues, were thus noticeably under-represented.

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* Spain joined in this project at a later date. See list of publications in the annex.

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The four most important reasons why companies became active in environmental protection were said to be:

- Environmental legislation
- Company staff becoming aware of environmental damage and risk
- Pressure of public opinion, and
- Direct economic benefits.

Comparative evaluation of the findings showed up many very complex differences between the Member States. It likewise revealed many similarities, a few of which should be emphasised here:

- Environmental protection measures are limited virtually exclusively to the production area. Only in exceptional cases does environmental protection extend to marketing, supply and personnel work;

- Large-scale companies are pioneers when it comes to environmental protection. They have the necessary resources and can afford to have an environmental philosophy formally anchored in their business activities. The TFHR in Brussels, which is currently conducting studies similar to those of CEDEFOP, has been able to make the same discovery;

- A marked change in direction in the importance attributed to environmental protection could be seen in most companies;

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- In all countries a close connection could be noted between environmental protection and the related tasks of work safety and health protection;

- In the majority of cases environmental protection came under the responsibility of technical service personnel.

The ways in which environmental protection was organized in the various companies were so diverse and complex that they cannot be dealt with in detail here. It is, however, of particular note that four Italian and three British enterprises saw environmental protection as the responsibility of the personnel department, and one other Italian company counted it among the duties of a personnel manager. In contrast to this, in German companies personnel departments unfortunately have nothing at all to do with environmental protection matters.

It is also worth mentioning that the institution of an environmental officer is a liaison officer *par excellence* to a certain extent since he functions as an in-house coordinator and as a contact person to the authorities. We found environmental officers in all the countries we looked at (and in The Netherlands as well which took part in our project without conducting its own surveys). Unlike in Germany where the law prescribes that enterprises employ environmental officers, they must only be employed under certain circumstances in the United Kingdom and in Italy. A separate comparative study dealing with statutory regulations, functions and the effectiveness of environmental officers in all Member States of the EC would be most useful, especially as a basis for

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practical starting-points for promoting cooperation and exchange projects in the field of environmental protection.

Altogether we examined 78 occupational profiles in the chemical and metal industries in the above-mentioned countries: 28 of these were in Italy, 23 in Germany and 27 in Great Britain. None of these occupations resembled each other.

The occupations were classified under three main functional groups which likewise took into account the scope of responsibilities, the most important contents of the job, the priority they were given and where they fitted into the hierarchy of the department. A description was drawn up outlining the typical constellation of the tasks of each occupation, the typical competences necessary to perform them, training qualifications and entry requirements for the position. We now have a function-specific comparison of "who is doing what in environmental protection" (even though the limited scope of our studies may prevent them from being representative).

Since all the occupations were also analysed according to a time matrix, we acquired an appreciation of the importance of those working in environmental affairs in the enterprises. Only very few environmental profiles are exclusively concerned with this subject matter; most are coupled with other (main) tasks which take up varying amounts of the employee's time (complex profiles and composite qualifications).

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The interpretation and evaluation of all the occupational profiles was undertaken applying various criteria. I would like to mention only one example here which illustrates the huge differences in the industrial sector in the three countries: We were most surprised to learn how many people are employed full-time in Italian enterprises in environmental functions. A great number of enterprises in Italy have their own environmental departments. In sharp contrast to this, we find virtually no full-time environmental functions in Great Britain. Environmental competences are almost always acquired through "learning by doing". Germany, on the other hand, can refer to a normative set of regulations concerning environmental officers as well as legally stipulated environmental sections in training regulations, which have been defined for about 100 occupations so far.

And now a short glance at the public sector. The problems we faced when comparing and classifying occupational profiles in the chemical and metal industries prompted us to structure these studies much more rigidly in advance. We

- defined and made a sharp differentiation between the function areas (having agreed on four function areas):
  1. Policy-making
  2. Research
  3. Inspection and control
  4. Provision of information to the public;

- restricted the area of work to environmental protection with reference to air pollution control;

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- stipulated the number and type of departments in which interviews were to be held, from the Ministry of the Environment down to local level;

- had a common questionnaire for all.

The initial findings of a comparative analysis indicate a great similarity in the overall structure of the occupational profiles in the countries involved in the study. The surveyed profiles are less complex than in industry, which follows from the clear allocation of functions itself, and the formal initial training of function holders is less frequently university or other higher education qualifications, even though engineers and natural scientists are likewise predominant in environmental coordination in enterprises.

A few core statements can be filtered from the synthesis of our studies in the industrial area even though there is always an exception to the rule:

- The "coordination, communication and transfer" area is generally of major importance. This takes in transversal and interdisciplinary occupational profiles which would undoubtedly play an important role in other sectors too;

- Our surveys showed that it is a relatively recent development that enterprises see environmental protection as an occupational task and a qualification requirement. More attention was given to it only when purely technical strategies for solving problems and slogans such as "environmental protection is a

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management problem" proved to be insufficient;

- Integrated environmental protection, to which all departments and functional areas have to adhere, exists only in exceptional cases.

Our survey in the public sector, where the majority of the function holders interviewed work full-time or are supposed to work full-time on environmental matters, is, therefore, a kind of complementary picture to the studies on industry.

One major finding of the classification and weighting of job requirements shows that the spectrum of tasks in environmental protection is similar in industry and the public sector:

- The evaluation of occupational competences indicated that in all countries the training career as well as professional experience are seen as the main determinants;

- Virtually no environmental education and training in keeping with job requirements takes place in the countries surveyed. A systematic deficit of actually existent competences compared to those needed could be registered;

- In both surveys statements were made to the effect that environmental protection is very much a question of social processes. Evidence of this was the high number of non-specialized competences called for such

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as social skills, ability to work in a team, care, loyalty, reliability, communication skills, etc. i.e. "conventional virtues" which are playing a more and more important role in all other occupations as well.

- The interdependency of specialized competence and social virtues leaves a bad aftertaste, however. This is apparent when formal training offers are practically non-existent and thus personal virtues and professional experience have to be the principal criteria.

Conclusions

1.
If these comparative studies are to be extended to other economic sectors, the findings gained so far could and should be used to help recognise whether and to what extent environmental protection plays a role in all other profiles as well.

2.
The many common features - which came as quite a surprise to us - could in fact be taken as an opportunity to increase the number of transnational cooperation projects. The international exchange of experience within the occupational groups included in our survey should be purposefully promoted since reciprocal learning processes are in any case more and more on the agenda with the Single European Market in the foreground. What's more, pollution does not respect borders.

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This is a matter for the social partners in particular, but public administrations need to be active as well especially when it comes to cooperation agreements with local authorities which normally have to assume the complex environmental protection tasks involving execution and control functions. In the meantime, as mentioned above, occupational environmental education and training projects are also being promoted at European Community level (e.g. through the EC Social Fund and the PETRA programme).

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Annex

Occupational profiles in environmental protection
CEDEFOP publications

		Languages
1.	Chemical and Metal Industries	
	Federal Republic of Germany	DE, EN, FR
	United Kingdom	EN
	Italy	IT, EN
	Spain	ES, EN, FR
	Synthesis Report	DE, EN, ES
2.	Public Sector	
	Federal Republic of Germany	DE, EN, FR, IT
	United Kingdom	EN, FR, IT
	Italy	IT, EN, FR
	France	FR
	Synthesis Report	Not yet published Original: IT

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